

# (12) UK Patent Application (19) GB (11) 2 072 957 A

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(56) Documents cited by ISA

US, A, 3986351

US, A, 4192265

US, A, 3919986

US, A, 4191150

(58) Field of search by ISA  
US 123/48R, 78R, 315,  
316

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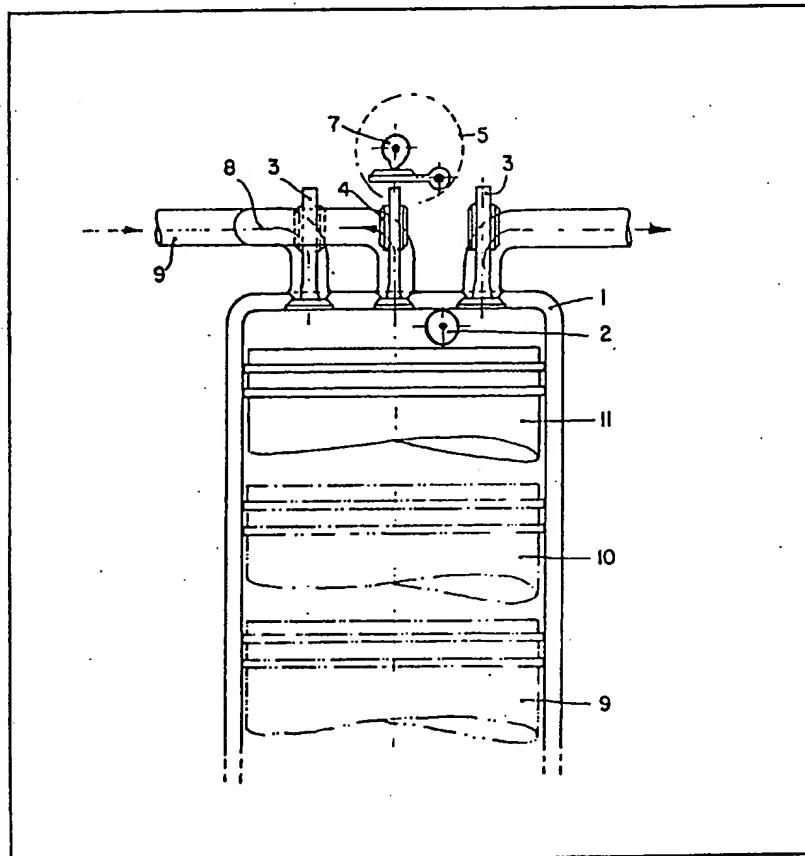
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## (54) Intake gas recirculation

(57) The present invention refers to the adapting of an internal combustion spark ignition engine to a multifuel engine having maximum thermodynamic efficiency possible with each particular fuel. The innovation consists in the variation of an effective compression ratio of the engine by recirculation of unburned gases from the cylinder to the intake tube (9) of the engine in a certain extent of the compression stroke of the engine. The recirculation of the intake gases is controlled by an

actuating device (5) with variable action. The basic effect of the invention is to confer to the engine the property of having a variable effective compression ratio optimized for a particular fuel and at the same time to use a large expansion ratio, being constant and independent of the compression ratio, in order to obtain a high thermodynamic efficiency and a low specific fuel consumption. The invention can be applied on existing engines or on new engines in order to get a highly efficient use of volatile or gaseous fuels, such as some petroleum derivates and its alternative fuels like the alcohols and biogases.



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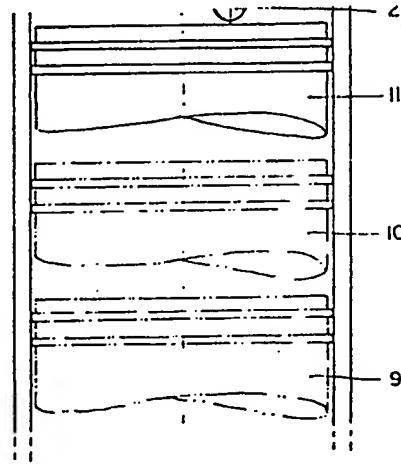
## ERRATUM

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